

## CHEMICAL TRACERS FOR THE MEASUREMENT OF GLUCOGENESIS

### ABSTRACT

[0062] The present invention provides a combination of carbon-13 and deuterium metabolic tracers and methods that when used in conjunction with nuclear magnetic resonance spectroscopy, provide a measurement of metabolic fluxes in the target organisms. The tracers of the present invention may be taken orally during the same clinical exam. The metabolic information can be derived from blood, urine or other fluids to provide a comprehensive profile of glucogenic metabolism. The subject matter of the present invention may be applied to the study of metabolic dysfunction related to obesity, diabetes, HIV infection and a variety of other disease conditions.